

A PROPOSED DELIMITATION OF BOTANICAL COUNTIES FOR SOUTHERN RHODESIA.

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In the study of the flora of a region in the Herbarium, where specimens, together with the collector's notes and records in literature, form the chief source of information about the habitat and communities in which a plant lives, the student is not infrequently exasperated by a record such as "Rhodesia," often not even accompanied by a date.

That there is little, however, to guide a collector, particularly one with a purely amateur interest in plants, must be admitted. The present paper aims therefore to define more particularly the information desired about plants collected in Southern Rhodesia with a view to facilitating studies of their geographical distribution and ecology.

In making the following suggestions I am guided by the practice of British botanists, which is founded on the work of Watson (1), followed by the several London Catalogues (2) and Reports of Botanical Clubs (3), which in their totality constitute periodic checks on nomenclature and a vast source of geographical information. Much useful and interesting information about the geographical origin and relation to climatic change of the British Flora has emerged from this careful record (*cf.* Mathews, 4.)

While such an "Ecological Flora" as is envisaged by Salisbury (5) is undoubtedly the ideal, it is felt that much more must be known even of the floristics of Rhodesian plants before such could be attempted.

This paper suggests 17 Botanical Counties for Southern Rhodesia as follows :—

1. **The Victoria Falls.** Limits : The boundaries of the Victoria Falls Game Reserve.

This area is predominantly one of umGusi and Mopani, but also includes the highly atypical Falls area with its small piece of Rain Forest. This area, one of the chief tourist attractions of Southern Rhodesia, has been visited perhaps by more botanists and collectors than any.

2. **The Kalahari.** Limits : The Zambesi to the west of the Falls Reserve ; the Bechuanaland Border down as far as the Bulawayo-

Francistown railway ; that railway to Bulawayo ; Bulawayo to the Falls by rail.

The area is predominantly one of semi-desert sand veld with a fair mixture of vegetation types such as Mopani, Mfuti, umGusi, Msasa, Thorn, Mangwe and grassland. Very little collecting has been done here with the exception of work by Mr. A. H. Pardy.

3. **Matabeleland.** Limits : The Kalahari to Bulawayo ; Bulawayo to Somabula by rail ; Somabula to Shabani by rail ; Shabani to the Lundi river due east ; the Lundi river to Chiburubute ; Chiburubute to Tuli by Selous road ; Tuli along the Shashi to the border ; the border north-west to the Kalahari.

The chief vegetation types are Mopani, Msasa, Mangwe, thorn and grassland.

The north-western area of this county, containing Bulawayo and the Matopos, has been visited by as many collectors as the Falls, notable among whom are Mr. F. Eyles, Archdeacon Rogers and Dr. F. Rand.

4. **The Limpopo.** Limits : The Limpopo valley ; Matabeleland ; Chiburubute down the Lundi river to the Chipinda Pools ; thence along the line of 1,000 ft. altitude to the Limpopo.

The chief vegetation types are Mopani and Msasa. There are no collections, apart from some casual gatherings in passing by Dr. Pole Evans, from this area.

5. **The Sabi.** Limits : County (4) as far as the junction of the Lundi and Chiredzi rivers ; along the Chiredzi to Zaka ; Zaka by road, through Bikita, to the Fort Victoria-Birchenough Bridge road ; the road east to the Birchenough Bridge ; the Bridge south along the Sabi to the junction with the Tanganda river ; the Tanganda river to branch south, passing west of Chippinga along the track to the Umhlabeni river at the border ; the border south and west to Limpopo county.

An area predominantly of Mopani and Mfuti with some Msasa. Apart from a casual collection by Swynnerton this area too is unworked.

6. **Gazaland.** Limits : County 5 to the Birchenough Bridge ; the Bridge along the Sabi to its junction with the Odzi ; the Odzi river to its junction with the Wengezi river ; the Wengezi river to the border ; the border down to Sabi county.

This area, so well reported on by Swynnerton and the British Museum (6), contains part of the eastern escarpment and shows an interesting altitudinal zonation into Mfuti, Msasa and Mountain zones. The mountain zone contains both grassland and

evergreen mountain forest, while the well-known mahogany forest of Mt. Selinda belongs here.

7. **Umtali.** Limits : Gazaland ; the border as far north as the Christmas Pass range ; from the Christmas Pass by road to Tsungwesi ; south along the Tsungwesi river to the Sabi ; the Sabi river south to its junction with the Odzi river at County 6.

As interesting a region vegetatively as the last but with less high ground and quite a large stretch of Mopani. Swynnerton, Teague, Eyles and many others have collected here.

8. **Manicaland.** Limits : Umtali county ; by road from Tsungwesi to Rusapi ; Rusapi to Inyanga by road ; Inyanga due east to the Gaerezi river ; the Gaerezi to the Border ; the Border south to county 7.

As interesting a region as the last two and having in Mt. Inyangani the highest point in S. Rhodesia. There is no Mopani.

This region has been the focus of attention for some time past, having been worked by Prof. Thor. E. Fries and his associates, Eyles, Henkel, Pardy and the present author.

9. **Mtoko.** Limits : Manicaland ; Rusapi by road to Macheke ; Macheke north by road to Mrewa ; Mrewa to the Mohuni river ; the Mohuni river to its junction with the Mazoe river ; the Mazoe river to the border ; the border south to county 8.

This is largely low-lying country containing Msasa, Mfuti and Mopani. I know of no collections from this area.

10. **Darwin.** Limits : Mtoko county ; the Mohuni river to Shamva ; Shamva by rail to Amanda ; Amanda by road across the Umvukwes to Banket ; Banket by rail to Sinoia ; Sinoia by road to the Angwa river ; the Angwa river to the border ; the border to county 9.

Again chiefly low-lying and consisting of Msasa, Mfuti and Mopani. The Umvukwes bear grasslands and many interesting eastern border plants occur at higher altitudes (7). Systematic collections are here wanting also.

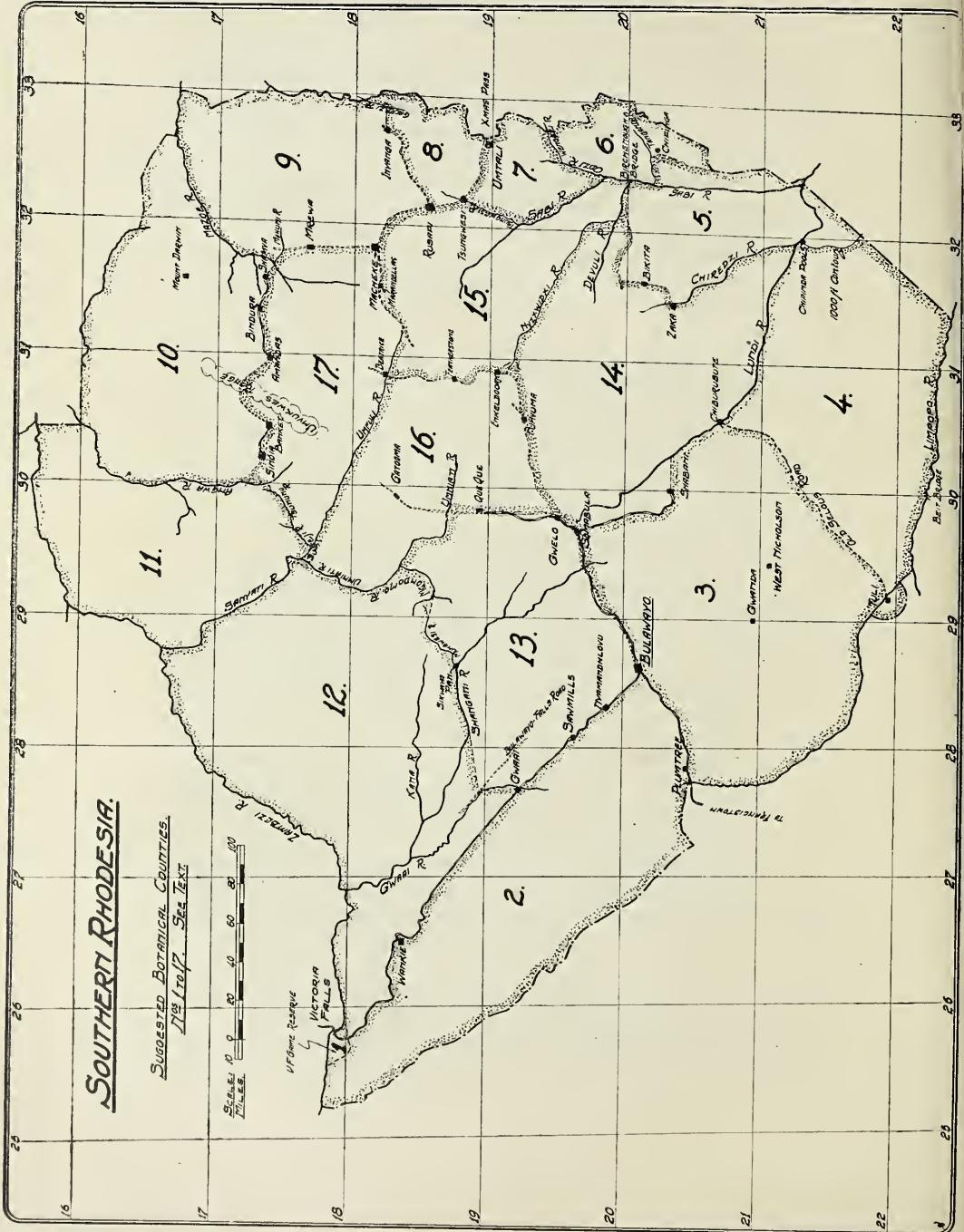
11. **The Lower Zambesi.** Limits : Darwin county ; the Zambesi west to its junction with the Sanyati ; the Sanyati river to its junction with the Suseji ; the Suseji to its junction with the Tsununu ; the Tsununu river across to the Angwa ; down the Angwa river to county 10.

Low-lying country with Msasa, Mfuti and Mopani. Dr. F. Rand made a fairly large collection from Miami here.

12. **The Upper Zambesi.** Limits : Lower Zambesi county ; the Zambesi to county 1 ; Kalahari county as far south as Gwaai ; from

SOUTHERN RHODESIA.

SUGGESTED BOTANICAL COUNTIES.



Gwaai down the Gwaai river to the Bulawayo Falls road ; from the road due east to the Shangani river ; the Shangani river to the Sikwaya Pan ; Sikwaya Pan along the Mungwasi to its source ; east to the Mgondomo river to county 11.

This area is more broken than the last and contains the Umgusi as well.

Mr. F. Levy, of Wankie Collieries, has made some fine collections here.

13. Shangani county. Limits : Kalahari county and the Upper Zambesi ; the Ummiati from county 12 to the Gatooma-Queue road ; Queue by road through Gwelo to Bulawayo.

A very mixed area containing Mopani, Mfuti, Umgusi, Msasa, Thorn and Mangwe.

A few casual collections come from this area.

14. Karangaland. Limits : Shangani county ; Matabeleland ; Limpopo ; Sabi ; from Birchenough Bridge along the Nyxxwidxi river to Moffat road ; along Moffat road to Umvuma ; Umvuma to Gwelo by road.

Another mixed area but without the umGusi.

Large collections were made here by Munro and many casual collections have been made by visitors to Zimbabwe.

15. Charter. Limits : Karangaland ; Sabi ; Gazaland ; Umtali ; Manicaland ; Mtoko ; Macheke to Marandellas by road ; Marandellas to Beatrice ; Beatrice to Karangaland through Enkeldoorn by road.

Mixed vegetation containing Mangwe as well as the Brachystegias and Mopani.

No collections have been made here to my knowledge.

16. Gatooma. Limits : Charter ; Karangaland ; Shangani county ; Upper Zambesi ; Lower Zambesi ; Beatrice along the Umfuli river to county 12.

Vegetation the same as 15 without Mopani and with Muhatja.

Only casual collections have been made here.

17. Mashonaland. Limits : Gatooma ; Charter ; Mtoko ; Darwin and lower Zambesi counties.

Perhaps the most interesting and varied of the counties, containing all types with the exception of the Mountain forest and with by far the largest number of species as yet recorded. A large number of collectors have worked here, prominent among them being Mr. F. Eyles, whose report (8) is still the most complete record of Rhodesian plants.

See the outline map on the opposite page.

More and more attention, of recent years, has been focussed both by the botanist and his numerous colleagues primarily concerned with more obviously economic problems, on the phenomena of plant and animal ecology. Here too the worker in comparing and reviewing areas of the same region finds the essential information desired to be lacking in the published and herbarium records.

Dr. Henkel (9) has published an account of the Rhodesian vegetation, which the writer has found to be accurate in the field, and which can serve as a useful further guide to define the plant's associates. This will be an essentially "natural" addition inasmuch as the vegetation types noted by Henkel correspond to a large degree to the climatic variations induced primarily in Southern Rhodesia by varying topography within the general east to west differentiation of rainfall.

If the 17 Botanical Counties enumerated above can be accepted it is further suggested that a standardised minimum notation should accompany each specimen collected, thus :

- (1) County ; (2) Vegetation type ; (3) Immediate associates ;
- (4) Notes ; (5) Locality ; (6) Date.

e.g.

Widelia natalensis Oliv. & Hiern.

S. Rhodesia ; Manicaland ; in Mfuti type, in association with *Uapaca nitens* and *U. Kirkiana* ; Shrubby ; Flowers lemon yellow ; iNyumquarara valley. Feb., 1935.

or

Adansonia digitata Linn.

S. Rhodesia ; Limpopo ; Mopani type ; In association with Mopani especially on rocky slopes ; Large tree with a rounded crown of leaves and thick squat trunk ; in fruit ; near Mazunga ; April, 1934.

It is felt that, particularly from the ecological point of view, records of animals might profitably be made on the same basis, thus e.g. —

Rhampholeon marshalli Blgr.

S. Rhodesia ; Manicaland ; In climax evergreen forest ; climbing over the branches of a small tree well under the canopy ; Ziwani forest ; July, 1937.

REFERENCES.

- (1) Watson, H. C. *Topographical Botany*, ed. II. (1883).
- (2) The London Catalogue of British Plants. Eleven editions.
- (3) Reports of the Botanical Society and Exchange Club of the British Isles ; The Watson Botanical Exchange Club Reports. Both annually.
- (4) Mathews, J. R. *Annals of Botany*, xxxvii (1923), 277 ; (1924) 707 ; (1926) 773.

- (5) Salisbury, E. J. *Journal of Botany*, lxvi (1928), 48.
- (6) A contribution to our knowledge of the Flora of Gazaland; *Journal Linn. Soc. Bot.*, xl. (1911) 1.
- (7) Verbal communication from Mr. J. Kelly Edwards, Conservator of Forests.
- (8) Eyles, F. *Trans. Roy. Soc. S.A.* (1916), 273.
- (9) Henkel, J. S. *Proc. Rhod. Sci. Ass.*, xxx (1931), 1.

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